



Innovative and Cost-effective Entry-level SAN Storage

StoreWay™ Optima 1200

Optima 1200 is an optimized storage solution for departmental servers and small storage networks. Developed on Fibre Channel standards for server connections and Serial Attached SCSI (SAS) standards for disk connections, the system can support high-performance disks and high-capacity disks in the same subsystem.

- **Enterprise-Class Disk Subsystem**
- **Partitionable into transactional and backup storage zones**
- **SAS and SATA disks supported in the same subsystem**
- **Simple and intuitive management software based on the SMI-S standard**
- **Multipath connectivity on Windows, Linux and AIX**
- **Up to 45 Terabytes (SATA) capacity**

The Optima 1200 subsystem, with single or dual active RAID controllers, and the redundant Optima 1200 extension are based on industry-standard technologies: Serial Attached SCSI (SAS) associated with the SATA (Serial Advanced Technology Attachment) disk interface. This technology mix makes the Optima 1200 the ideal solution for small-scale databases and electronic messaging systems, and an effective storage solution for large data volumes such as images and multimedia files. It also functions as a secondary storage device prior to tape backup.

SAN Support

The two dual-active controllers each comprise two 4 Gbit/s Fibre Channel ports connected to the servers and facilitate integration into the existing SAN infrastructures. This connectivity ensures interoperability with Windows, Linux and AIX environments and full SAN support. The embedded system for volume isolation, associated with failover and load balancing on Windows, Linux and AIX, makes Optima 1200 an interoperable and optimized storage solution for high availability server clusters.

An Enterprise-Class Solution

Completing the Bull StoreWay family, the Optima 1200 storage array and its extension are available in both rack (pre-assembly at factory available on request) and tower format. Furthermore, they feature enterprise-class functionalities and power and cooling characteristics. Optima 1200 meets both near-line performance and on-line transactional storage requirements.

High Reliability

All components, including the 12 disk drives, cooling, fans, power supplies and storage processors are hot-pluggable. Reliability is tailored to both high-performance and high-

capacity disks. Like the rest of the StoreWay range, Optima 1200 tolerates double disk failure with RAID6 dual-parity support. Server data access is secured by StoreWay Multipath, available for Windows, Linux and AIX, which provides access redundancy and load-balancing services.

Standard and User-friendly Storage Administration

The Optima 1200 StoreWay Master manager is designed for Windows, Linux and AIX environments in small, decentralized processing centers. The software is comprehensive, easy to implement and user-friendly allowing non-specialists to put this storage solution into service, rapidly and safely. Optima 1200 management can be integrated into a standard SMI-S management environment. In addition to the standard server error escalation function, licenced functions such as SNMP and email are also available are integrated.

Services and Support

Bull provides professional services to optimize the use of this subsystem.



GLOBAL CHARACTERISTICS

| | |
|---------------------------------|--|
| Tower chassis version | Yes |
| Rack chassis version | 2U base + up to 4 x 2U extensions |
| Total Storage Capacity | up to 18 TB SAS or 45TB SATA |
| Disk modules (hot swap) | 12 per enclosure from 3 to 60 HDD (with 4 extension enclosures) |
| RAID capability | RAID0, 1, 5, 6, 10, 50 and direct disks access |
| RAID1/10 | RAID 1: 2 HDD ; RAID 10: 2+2 up to 8+8 HDD |
| RAID5/50 | RAID 5: 3 up to 16 HDD ; RAID50: 3+3 up to 8+8 HDD |
| RAID6 | 6, 11 or 12 HDD |
| Interface to host | 4 Gbit/s Fibre Channel |
| Max number of port to host | mono 2x or dual 2x + 2x (SFP) |
| Interface to disks | 3 Gb/s SAS channel with SAS and SATA protocol |
| Max number of channels to disks | 12 |
| Power Supply Redundancy | Yes |
| Fan Redundancy | Yes (variable speed fans in power supplies and dedicated dual redundant fans module) |

CONTENT OF BASIC CHASSIS

| | |
|-------------------------------------|--------------------------------------|
| RAID controller /SP | mono 1x (2x SFP) or dual 2x (2x SFP) |
| Cache memory per RAID controller/SP | 1 GByte |
| Cache memory configurability | Write |
| Hot-Plug Power Supply | Yes |
| Battery Backup (BBU ou SPS) | Yes (72 hours) |
| Host Management | TCP/IP and Fibre (SES) |

OPTIONS ON TOP OF BASIC CHASSIS

| | |
|--------------------------------|--|
| Additional RAID controller /SP | Mono controller upgrade on request |
| Hard Disk Drives 7.2Krpm | Packs of 3 x 500 GB and 3 x 750 GB SATAII |
| Hard Disk Drives 10Krpm | Packs of 3 x 73 GB, 3 x 146 GB, 3 x 300 GB SAS |
| Hard Disk Drives 15 Krpm | Packs of 3 x 73 GB, 3 x 146 GB, 3 x 300 GB SAS |

STORAGE MANAGEMENT SOFTWARE

| | |
|---|--|
| Storage Management | StoreWay Master Global (standard SMI-S support) |
| Multi-path Management | Yes (fail over and static load balancing) for Windows2003, Linux and AIX with StoreWay Multipath |
| LUN mapping/Multi-server storage access | Yes up to 16 hosts |
| Performance Monitoring | Integrated in StoreWay Master |

PHYSICAL SPECIFICATIONS

| | |
|---------------------------------------|-------------------------------------|
| Size of Cabinet chassis (HxWxD) | 501x260x511 mm |
| Size of Rack chassis (HxWxD) | |
| Disk Array Controller Unit | 87x447x511 mm |
| Extension module rack size (HxWxD) | 87x447x511 mm |
| Weight | |
| Disk Array Controller Unit | 10-32Kg |
| Height standard EIA | |
| Disk Array Controller Unit | 2U |
| Disk Enclosure Controller Unit | 2U |
| Operating constraints | 5-40°C, 8%-80% |
| Power consumption (basic chassis) | 450 Watts |
| Power consumption (add-on disk encl.) | 450 Watts |
| Voltage | AC100 240V, 50/60Hz (DC on request) |

SOFTWARE CERTIFICATION

| | |
|------------------------------------|------------|
| Windows 2000 Server & Professional | Yes |
| Windows XP Professional | On request |
| Windows Server 2003 | Yes |
| Red Hat Enterprise Linux 4.0 | Yes |

SOFTWARE CERTIFICATION (Con't)

| | |
|--------------------------------|--------------|
| SuSE Linux Enterprise Server 9 | On request |
| Unix | AIX 5.2, 5.3 |
| Other OS | On request |

REGULATORY & SAFETY

| | |
|-----------------------|-------------|
| Regulatory compliance | UL, CSA, CE |
|-----------------------|-------------|

WARRANTY

| | |
|--------------------|--|
| Standard warranty | World Wide; 3 years Hardware Support, Parts Exchange |
| Warranty extension | 4 hour, 7x24 onsite response (depending on location) |

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